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| FORM PTO-1390 TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C 371 | | U S DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE ATTORNEY'S DOCKET NUMBER 2169.GLE.PT |
| INTERNATIONAL APPLICATION NO PCT/EP00/08614 | | U S APPLICATION NO (If known, see 37 CFR 1.5) 10/070715 |
| INTERNATIONAL FILING DATE 4 Sept. 2000 | | PRIORITY DATE CLAIMED 7 Sept. 1999 and 23 Aug. 2000 |
| TITLE OF INVENTION DEVICE AND METHOD FOR FILLING CONTAINERS | | |
| APPLICANT(S) FOR DO/EO/US Spatz, Günther;; Schwarz, Wolfhard; and Spether, Karl-Heinz | | |
| Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information: | | |
| <ol style="list-style-type: none"> <input checked="" type="checkbox"/> This is a FIRST submission of items concerning a filing under 35 U.S.C. 371. <input type="checkbox"/> This is a SECOND or SUBSEQUENT submission of items concerning a filing under 35 U.S.C. 371. <input type="checkbox"/> This express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (21) indicated below. <input checked="" type="checkbox"/> The US has been elected by the expiration of 19 months from the priority date (Article 31). <input checked="" type="checkbox"/> A copy of the International Application as filed (35 U.S.C. 371(c)(2)) <ol style="list-style-type: none"> a. <input checked="" type="checkbox"/> is attached hereto (required only if not communicated by the International Bureau). b. <input type="checkbox"/> has been communicated by the International Bureau c. <input type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US). <input checked="" type="checkbox"/> An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)). <ol style="list-style-type: none"> a. <input checked="" type="checkbox"/> is attached hereto b. <input type="checkbox"/> has been previously submitted under 35 U.S.C. 154(d)(4) <input checked="" type="checkbox"/> Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3)). <ol style="list-style-type: none"> a. <input checked="" type="checkbox"/> are attached hereto (required only if not communicated by the International Bureau). b. <input type="checkbox"/> have been communicated by the International Bureau c. <input type="checkbox"/> have not been made; however, the time limit for making such amendments has NOT expired. d. <input type="checkbox"/> have not been made and will not be made. <input type="checkbox"/> An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)). <input type="checkbox"/> An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)). <input checked="" type="checkbox"/> The annexes of the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)). | | |
| Items 11. to 16. below concern document(s) or information included: | | |
| <ol style="list-style-type: none"> <input type="checkbox"/> An Information Disclosure Statement under 37 CFR 1.97 and 1.98. <input type="checkbox"/> An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included. <input checked="" type="checkbox"/> A FIRST preliminary amendment. <input type="checkbox"/> A SECOND or SUBSEQUENT preliminary amendment <input type="checkbox"/> A substitute specification. <input type="checkbox"/> A change of power of attorney and/or address letter. <input type="checkbox"/> A computer-readable form of the sequence listing in accordance with PCT Rule 13ter 2 and 35 U.S.C. 1.821 - 1.825. <input type="checkbox"/> A second copy of the published international application under 35 U.S.C. 154(d)(4). <input type="checkbox"/> A second copy of the English translation of the international application under 35 U.S.C. 154(d)(4). <input checked="" type="checkbox"/> Other items or information: <ol style="list-style-type: none"> 1) Certificate of Mailing Under 37 USC Section 110 2) Return Postcard | | |

100-08PCATO 06 MAR 2002

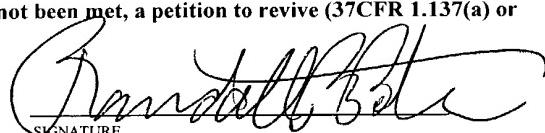
| U.S. APPLICATION NO (if known, see 37 CFR 1.5) | | INTERNATIONAL APPLICATION NO PCT/EP00/08614 | | ATTORNEY'S DOCKET NUMBER 2169 GLE PT | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 10/070715 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>21. <input type="checkbox"/> The following fees are submitted</p> <p>BASIC NATIONAL FEE (37 CFR 1.492 (a)(1) - (5)):</p> <p>Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO \$1040.00</p> <p>International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO. \$890.00</p> <p>International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO \$740.00</p> <p>International preliminary examination fee (37 CFR 1.482) paid to USPTO but all claims did not satisfy provisions of PCT Article 33(1)-(4). \$710.00</p> <p>International preliminary examination fee (37 CFR 1.482) paid to USPTO and all claims satisfied provisions of PCT Article 33(1)-(4). \$100.00</p> <p style="text-align: center;">ENTER APPROPRIATE BASIC FEE AMOUNT =</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| \$890.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Surcharge of \$130.00 for furnishing the oath or declaration later than <input type="checkbox"/> 20 <input checked="" type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(e)).</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| \$130.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; padding: 2px;">CLAIMS</th> <th style="text-align: left; padding: 2px;">NUMBER FILED</th> <th style="text-align: left; padding: 2px;">NUMBER EXTRA</th> <th style="text-align: left; padding: 2px;">RATE</th> <th colspan="2" style="text-align: left; padding: 2px;"></th> </tr> </thead> <tbody> <tr> <td style="padding: 2px;">Total claims</td> <td style="padding: 2px;">20 =</td> <td style="padding: 2px;"></td> <td style="padding: 2px;">X \$18.00</td> <td style="padding: 2px;">\$ 00</td> <td style="padding: 2px;"></td> </tr> <tr> <td style="padding: 2px;">Independent claims</td> <td style="padding: 2px;">3 =</td> <td style="padding: 2px;"></td> <td style="padding: 2px;">X \$84.00</td> <td style="padding: 2px;">\$ 00</td> <td style="padding: 2px;"></td> </tr> <tr> <td colspan="3" style="padding: 2px;">MULTIPLE DEPENDENT CLAIM(S) (if applicable)</td> <td style="padding: 2px;">+ \$280.00</td> <td style="padding: 2px;">\$</td> <td style="padding: 2px;"></td> </tr> </tbody> </table> | | | | | | CLAIMS | NUMBER FILED | NUMBER EXTRA | RATE | | | Total claims | 20 = | | X \$18.00 | \$ 00 | | Independent claims | 3 = | | X \$84.00 | \$ 00 | | MULTIPLE DEPENDENT CLAIM(S) (if applicable) | | | + \$280.00 | \$ | |
| CLAIMS | NUMBER FILED | NUMBER EXTRA | RATE | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total claims | 20 = | | X \$18.00 | \$ 00 | | | | | | | | | | | | | | | | | | | | | | | | | |
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| MULTIPLE DEPENDENT CLAIM(S) (if applicable) | | | + \$280.00 | \$ | | | | | | | | | | | | | | | | | | | | | | | | | |
| TOTAL OF ABOVE CALCULATIONS = \$1020.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p><input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by ½.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| SUBTOTAL = \$ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Processing fee of \$130.00 for furnishing the English translation later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(f)).</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| TOTAL NATIONAL FEE = \$ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property + \$</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TOTAL FEES ENCLOSED = \$1020.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 70%; text-align: right; padding: 2px;">Amount to be refunded:</td> <td style="width: 30%; text-align: right; padding: 2px;">\$</td> </tr> </table> | | | | | | Amount to be refunded: | \$ | | | | | | | | | | | | | | | | | | | | | | |
| Amount to be refunded: | \$ | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 70%; text-align: right; padding: 2px;">charged:</td> <td style="width: 30%; text-align: right; padding: 2px;">\$</td> </tr> </table> | | | | | | charged: | \$ | | | | | | | | | | | | | | | | | | | | | | |
| charged: | \$ | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

- FEDERAL TRADE COMMISSION
- a. A credit card authorization in the amount of \$ 1020.00 to cover the above fees is enclosed.
- b. Please charge my Deposit Account No. 50-0881 in the amount of \$ _____ to cover the above fees.
A duplicate copy of this sheet is enclosed.
- c. The Commissioner is hereby authorized to charge additional fees which may be required, or credit any overpayment to Deposit Account No. 50-0881. A duplicate copy of this sheet is enclosed.
- d. Fees are to be charged to a credit card. **WARNING:** Information on this form may become public. **Credit card information should not be included on this form.** Provide credit card information and authorization on PTO-2038.

NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.

SEND ALL CORRESPONDENCE TO

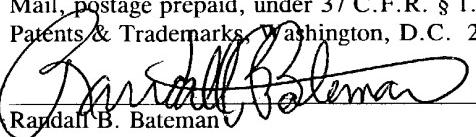
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 NAME
37,774
 REGISTRATION NUMBER

CERTIFICATE OF DEPOSIT UNDER 37 C.F.R. § 1.10

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 Randall B. Bateman


 Date

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10/070715

JC10 Rec'd PCT/PTO 06 MAR 2002

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Günther Spatz et al.

Serial Number: _____ (National Stage of PCT/EP00/08614
Claiming Priority to German Applications
29923540.8 and 10041319.6)

Filed: 4 September 2000

Group: _____

Examiner: _____

For: DEVICE AND METHOD FOR FILLING CONTAINERS

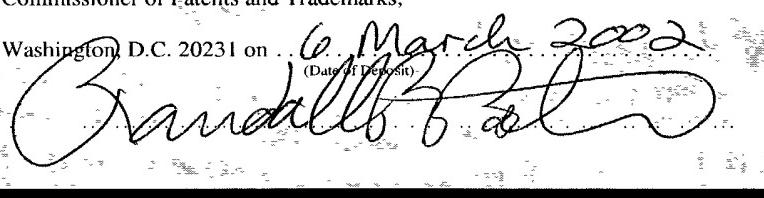
Attorney Docket: 2169.GLE.PT

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PRELIMINARY AMENDMENT

Dear Sir:

Prior to calculation of the filing fee and examination of the above-referenced application,
please enter the following amendment.

In The Claims:

Please cancel claims 1 through 9 and replace therefor, new claims 10 through 29 as set forth below.

10. (New) A device for filling containers with perishable material, comprising a filling station having a clean room in which the containers are filled and closed by a closure in a closing station, and a first cleaning lock for the containers configured such that the containers are cleaned prior to entering the clean room.

11. (New) The device according to claim 10, wherein the device further comprises a second cleaning lock for the closures, and configured such that the closures are cleaned prior to entering the clean room.

12. (New) The device according to claim 10, wherein at least one of the first and second cleaning locks comprises a cleaning device selected from the group consisting of a blasting device and a gasification device.

13. (New) The device according to claim 12, wherein the blasting device blasts an object to be cleaned with at least one of the group consisting of a liquid, UV radiation, radioactive radiation and gas.

14. (New) The device according to claim 13, wherein the gas is ozone.

15. (New) The device according to claim 10, further comprising a cleaning station downstream from the filling station.

16. (New) The device according to claim 15, wherein the cleaning station is in the clean room.

17. (New) A device for filling bottles comprising:

a clean room having a filling station for receiving bottles and for filling the bottles with minimal contamination; and

a first cleaning lock disposed in communication with the clean room for cleaning bottles prior to filling.

18. (New) The device according to claim 17, further comprising a second lock for cleaning closures prior to the closures entering the clean room and being disposed on the containers.

19. (New) The device according to claim 17, further comprising a cleaning station disposed in the clean room.

20. (New) A method for filling containers comprising:

introducing the containers into a first cleaning lock;

transferring the containers from the first cleaning lock into a clean room; and

filling the containers while in the clean room.

21. (New) The method according to claim 20, wherein the method comprises cleaning the containers in the first cleaning lock.

22. (New) The method according to claim 20, further comprising introducing closures for closing the containers into a second cleaning lock and transferring the closures from the second cleaning lock into the clean room.

23. (New) The method according to claim 20, wherein the method further comprises closing the containers in the clean room.

24. (New) The method according to claim 20, wherein the method comprises cleaning the containers in the first cleaning lock with at least one cleaning device selected from the group consisting of a blasting device and a gasification device.

25. (New) The method according to claim 24, wherein the method comprises blasting the containers with at least one of the group consisting of liquid, UV radiation, radioactive radiation and gas.

26. (New) The method according to claim 22, wherein the method comprises cleaning the closures in the second cleaning lock with at least one cleaning device selected from the group consisting of a blasting device and a gasification device.

27. (New) The method according to claim 26, wherein the method comprises blasting the containers with at least one of the group consisting of liquid, UV radiation, radioactive radiation and gas.

28. (New) The method according to claim 20, wherein the method comprises introducing the containers from the first cleaning lock and introducing the closures from a second cleaning lock and filling and closing the containers while in the clean room.

REMARKS

Applicant has canceled claims 1-9 and added new claims 10-28. The application is believed to be in condition for allowance. Should the Examiner believe that any adverse action is necessary, it is requested that he contact Randall B. Bateman at (801) 478-0071 so that such matters may be resolved as expeditiously as possible.

Respectfully Submitted,

MORRISS, BATEMAN, O'BRYANT & COMPAGNI, PC



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11PLTS
Device and method for filling containers

Description

5 The invention relates to a device for filling containers, in particular bottles, according to the preamble of Claim 1 and to a method for filling containers, in particular bottles, according to the preamble of Claim 6.

10 Devices and methods of the type discussed here are known. However, it has been found that particularly when the containers are being filled with perishable substance, in particular with beer, fruit juices or still mineral water, the substance with which the 15 containers are filled becomes contaminated and therefore perishes rapidly, so that it is no longer suitable for consumption.

Therefore, the object of the invention is to provide a device and a method which do not have these 20 drawbacks.

To achieve this object, the invention proposes a device which has the features listed in Claim 1. It is distinguished by a clean room in which the containers are filled. In this context, the term clean 25 room means an environment within which the number of germs is extremely low and which is virtually free of substances which are hazardous to the perishable substance. A closure station is also provided in the clean room. Therefore, the containers are closed with a 30 closure in the clean room, so that it is impossible for any germs to enter the container during transfer from the filling station to the closure station. The clean room is assigned at least a first cleaning lock, in which the containers are cleaned before they enter the 35 clean room.

An exemplary embodiment of the device which is distinguished by the fact that a second cleaning lock is provided, which is used to clean the closures which are fitted onto the containers, is preferred. This also

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ensures that it is impossible for any germs or the like to be carried into the clean room.

Further configurations are given in the remaining subclaims.

5 To achieve the object, the invention also proposes a method which has the features listed in Claim 6. It is distinguished by the fact that the containers are fed to a clean room, inside which they are filled, via a first cleaning lock, in which they 10 are cleaned. The containers are also closed in the clean room, in order to prevent germs or other substances from being carried into the perishable substance.

15 Further embodiments of the method are given in the remaining subclaims.

The invention is explained in more detail below with reference to the drawing, in which the only figure shows an outline sketch, in the form of a block diagram, of the device for filling containers.

20 Figure 1 shows a device 1 inside which containers B are filled with a perishable substance. The device 1 has a clean room 3 which is distinguished by the fact that the number of germs per cubic metre of air and of other substances which have an adverse 25 effect on the perishable substance are reduced to a minimum.

Inside the device 1 there is a filling station 5 in which the perishable substance is introduced into the containers B. The device 1 illustrated in this 30 figure also comprises a closure station 7, inside which closures V are fitted to the filled containers B. The closure station 7 is preferably likewise arranged in the clean room 3, i.e. inside the device 1, in order to avoid germs or other substances from posing a risk to 35 the perishable substance when the containers B are transferred from the filling station 5 to the closure station 7.

In Figure 1, a downstream cleaning station 9 is indicated in dashed lines inside the device 1. This is

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used to clean the filled containers B, so that there is no perishable substance or other substances adhering to the outside thereof. Figure 1 indicates that the downstream cleaning station may also be provided 5 outside the device 1. The cleaning station arranged outside the device 1 is denoted by reference numeral 11.

It can be seen from Figure 1 that a first cleaning lock 13 is provided, which is fed with the 10 containers B to be filled. Inside the cleaning lock 13, the containers B are cleaned, preferably sterilized. The lock may comprise a blasting device and/or a gasification device, the blasting device being able to spray a liquid onto the containers B to be cleaned 15 and/or to emit UV or radioactive radiation. Devices of this type are known, and therefore will not be described here.

The cleaned containers B are fed from the first cleaning lock 13 to the device 1 in such a way that 20 there is no possibility of contamination of the containers B. The first cleaning lock 13 may therefore be directly connected to the device 1.

Figure 1 also shows a second cleaning lock 15 which is fed with the closures V which are used to 25 close the containers B. Inside the second cleaning lock 15, the closures V are cleaned and/or disinfected; in this case too, it is possible to use a blasting device of the abovementioned type and/or a gasification device.

From the second cleaning lock 15, the closures V are fed to the device 1 in such a way that there is 30 no possibility of contamination by germs or other substances.

A dashed line 17 indicates that on the one hand 35 the first and second cleaning locks 13 and 15 may be combined to form a single lock, and on the other hand the two locks may be directly connected to the device 1, in order to be able to ensure that the cleaned

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objects are transferred securely, i.e. with protection against contamination.

The objects to be cleaned, i.e. the containers B and the closures V, can therefore be cleaned in the 5 associated cleaning locks by a gasification device which emits ozone, for example, or by means of a blasting device. The blasting device can release a cleaning liquid onto the objects to be cleaned or can emit UV radiation or radioactive radiation. Following 10 the cleaning by means of an active washing liquid, it is possible to carry out downstream cleaning using a neutral medium, in order to eliminate all residues of the cleaning liquid. The downstream cleaning preferably takes place outside the clean room, which can thus be 15 of relatively compact design.

The way in which the device 1 functions and the method for filling containers will be dealt with in more detail below:

In the interior of the device 1, namely in the 20 clean room 3, containers B are filled with perishable substance, for example with fruit juices or with mineral water which has a low carbon dioxide content or contains no carbon dioxide, in a filling station 5. In the latter case, therefore, the disinfecting action of 25 carbon dioxide is absent.

To prevent germs from being introduced into the containers B, the containers B and preferably also the closures V are cleaned and/or disinfected in cleaning locks 13 and 15 or, if appropriate, in a common 30 cleaning lock (cf. line 17). The containers B are then fed to the filling station 5, the closures V to the closure station 7. In this way, it is possible to fill the containers B with perishable substance and to prevent germs or other disruptive substances from being 35 entrained. Therefore, with the aid of the device 1 and the method explained here, it is possible for containers B to be filled without there being any need for heating of the substance to be introduced. On the one hand, this contributes to the flavour and

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constituents, in particular vitamins, of the substance with which the containers are to be filled not being impaired, and on the other hand it is possible to save on the energy required to heat the substance.
5 Ultimately, the method and device contribute to reliably achieving the minimum shelf life required, and in many cases this shelf life can even be extended, in some cases considerably.

The closed containers B may also be cleaned in
10 a downstream cleaning station 9 inside the clean room 3. However, it is expedient for the downstream cleaning to be carried out outside the device 1 or the clean room 3, in a downstream cleaning station 11.

Overall, it becomes clear that the device 1 is
15 of very simple structure and that it is possible to use standard cleaning and disinfecting methods for cleaning and disinfecting the objects which have been introduced into the clean room 3, namely the containers B and if appropriate also the closures V, in such a way that
20 there are no germs or other substances entrained into the perishable substance.

The explanations given also make it clear that it is simple to produce cleaning locks 13, 15 which can be directly integrated in the housing wall of the
25 device 1 or can be fitted to this wall. Germs cannot enter the clean room 3 or the area on the other side of the housing wall, since the only access is through the cleaning locks.

In the end, it can be seen clearly that in the
30 device described here or when carrying out the method explained, containers are filled and closed in a clean room. In doing so, at least one cleaning lock is used to ensure that the objects which are introduced into the clean room, in this case therefore the containers and the closures, are cleaned, so that it is impossible
35 for germs to be introduced. It can easily be seen that it is possible to use a cleaning lock which is provided for both the containers and the closures, but that it

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is also possible to provide separate cleaning locks for the two elements.

The device and the method are suitable for containers and closures of all types. However, it has
5 emerged that in some cases there are areas of closures which are not readily accessible and in which it is possible that there may still be germs. Therefore, it is preferable to use particular types of closure which are of very simple structure, i.e. from which germs can
10 be completely removed very easily during a cleaning operation.

The particular closures of the type discussed here are, as it were, simple closure caps, also referred to as sealing caps, which can be fitted onto
15 the container in the interior of the clean room and reliably close this container. The containers are then preferably definitively closed outside the clean room by a closure element being fitted to the closure cap. This may be a conventional plastic screw-type cap, a
20 crown cap, a twist crown cap or a standard metal screw-type cap. Screw-type caps of this type are fitted onto the container which has been provided with the closure cap and are then subjected to a forming operation in which a thread is rolled into the lateral surface of
25 the screw-type cap. Forming processes of this type are generally known and therefore need no further explanation here.

It is also essential that closure caps which are preferably of simple structure are used, without
30 any undercuts or areas in which germs or the like may remain during a cleaning operation, thus constituting a hazard to the filling substance. The containers can be securely closed by means of the closure caps, so that contamination of the container content is reliably
35 avoided even after they have been taken out of the clean room. The containers are therefore easy to handle without risk of the contents being damaged and can be definitively closed in the manner referred to above.

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The closure caps may consist of plastic, of plastic-coated metal or of a plurality of materials.

Preferably, the closure caps are fed to the cleaning lock in a defined orientation, so that it is 5 impossible for any liquid residues to collect in the closure cap during cleaning with a liquid cleaning or disinfecting agent.

The simple structure of the closure caps, which in fact have no undercuts or the like is also 10 advantageous for cleaning methods using jets and beams of all kinds, since all areas of the closure cap can be reliably reached and germs and the like are killed.

During cleaning of the closure caps which are held at a particularly selected orientation, it is 15 possible to ensure that cleaning liquid does not collect in recesses or the like. Consequently, drying processes which follow the cleaning operation can be carried out particularly efficiently and quickly.

During cleaning of the containers and the 20 closures or closure caps, it should be ensured that the materials of the parts to be cleaned are not impaired and that the taste of the substances or liquids with which the container is filled is not adversely affected either. By way of example, peracetic acid and/or 25 alcohol can be used for the cleaning.

The device described here and the method explained can be used particularly effectively for filling containers with readily perishable substance, in particular with beer, fruit juices and mineral water 30 with a low carbon dioxide content or without any carbon dioxide. In this case, it is preferable to use the closure caps described which are referred to as sealing caps, since such caps can be cleaned very thoroughly.

Claims

1. Device for filling containers, in particular bottles, with perishable substance, having a filling station, characterized by a clean room (3) in which the containers (B) are filled and are closed by means of a closure (V) in a closure station (7), and by a first cleaning lock (13) for the containers (B), which is assigned to the clean room (3) in such a way that the containers (B) are cleaned before they enter the clean room (3).

5 2. Device according to Claim 1, characterized in that a second cleaning lock (15) is provided for the closures (V), which is assigned to the clean room (3) in such a way that the closures (V) are cleaned before they enter the clean room (3).

10 3. Device according to Claim 1 or 2, characterized in that the first and/or second cleaning lock (13; 15) comprises a blasting device and/or a gasification device.

15 4. Device according to one of the preceding claims, characterized in that the blasting device blasts a liquid, UV radiation, radioactive radiation and/or gas - in particular ozone - onto the objects which are to be cleaned.

20 5. Device according to one of the preceding claims, characterized in that a downstream cleaning station (9; 11) is provided.

30 6. Method for filling containers, in particular bottles, with perishable substance, in particular by means of a device according to one of the preceding claims, characterized by the following steps: introducing the containers into a first cleaning lock, transferring the containers from the first cleaning lock into a clean room, filling the containers in the clean room, and preferably closing the containers in the clean room.

35 7. Method according to Claim 6, characterized in that the closures are fed to a second cleaning lock and

- 9 -

are then passed on to the clean room, where they are fitted onto the containers.

8. Method according to Claim 6 or 7, characterized in that the containers and/or the closures are cleaned
5 in the cleaning lock(s) by means of a blasting device and/or by means of a gasification device.

9. Method according to one of the preceding Claims 7 to 8, characterized in that the objects to be cleaned are cleaned by means of liquid jets, UV beams, by means
10 of radioactive beams and/or by means of a gas, in particular ozone.

Abstract

The invention proposes a device for filling containers, in particular bottles, with perishable substance, which comprises a filling station and is characterized by a clean room (3) in which the containers (B) are filled and are preferably also closed with a closure (V) in a closure station (7). It also has a first cleaning lock (13) for the containers (B), which is assigned to the clean room (3) in such a way that the containers (B) are cleaned before they enter the clean room (3).

Figure 1

10/070715

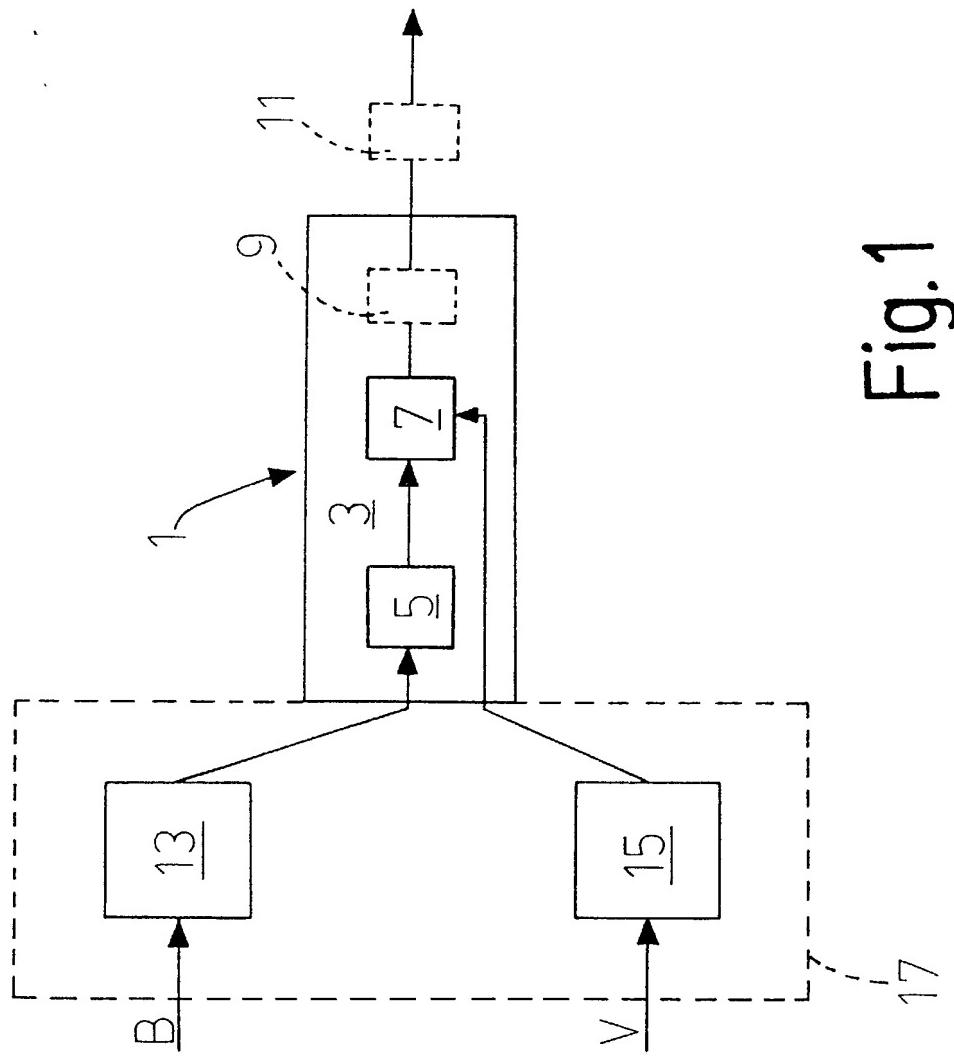
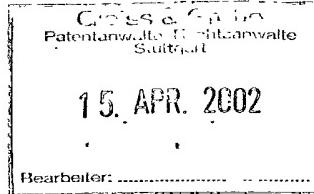


Fig. 1



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Alte 24105 #7

PCT/EP00/08164

U.S. Patent Application No. 10/070,715

(Claiming Priority to German Applications Nos. 29923540.8 and 10041319.6)

Attorney Docket No. 2169.GLE.PT

Declaration and Power of Attorney for Patent Application Erklärung für Patentanmeldungen mit Vollmacht

German Language Declaration

Als nachstehend benannter Erfinder erkläre ich hiermit an Eides Statt

daß mein Wohnsitz, meine Postanschrift und meine Staatsangehörigkeit den im nachstehenden nach meinem Namen aufgeführten Angaben entsprechen, daß ich nach bestem Wissen der ursprüngliche, erste und alleinige Erfinder (falls nachstehend nur ein Name angegeben ist) oder ein ursprünglicher, erster und Miterfinder (falls nachstehend mehrere Namen aufgeführt sind) des Gegenstandes bin, für den dieser Antrag gestellt wird und für den ein Patent für die Erfindung mit folgendem Titel beantragt wird:

Device and Method For Filling Containers

deren Beschreibung hier beigefügt ist, es sei denn (in diesem Falle Zutreffendes bitte ankreuzen), diese Erfindung

- wurde angemeldet am 4 September 2000
unter der US-Anmeldenummer oder unter der
Internationalen Anmeldenummer im Rahmen des Vertrags
über die Zusammenarbeit auf dem Gebiet des Patentwesens
(PCT)
PCT/EP00/08614 und am
6 March 2002 bgeadert (falls
zutreffend)

Ich bestätige hiermit, daß ich den Inhalt der oben angegebenen Patentanmeldung, einschließlich der Ansprüche, die eventuell durch einen oben erwähnten Zusatzantrag abgeändert wurde, durchgesehen und verstanden habe.

Ich erkenne meine Pflicht zur Offenbarung jeglicher Informationen an, die zur Prüfung der Patentfähigkeit in Einklang mit Titel 37, Code of Federal Regulations, § 1.56 von Belang sind

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated next to my name

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

Device and Method For Filling Containers

the specification of which is attached hereto unless the following box is checked.

- was filed on 4 September 2000
as United States Application Number or PCT International
Application Number
PCT/EP00/08614 and was amended on
6 March 2002 (if applicable)

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56

German Language Declaration

Ich beanspruche hiermit ausländische Prioritätsvorteile gemäß Title 35, US-Code, § 119 (a)-(d), bzw. § 365 (b) aller unten aufgeführten Auslandsanmeldungen für Patente oder Erfinderurkunden, oder § 365(a) aller PCT internationalen Anmeldungen, welche wenigstens ein Land ausser den Vereinigten Staaten von Amerika benennen, und habe nachstehend durch ankreuzen sämtliche Auslands- anmeldungen für Patente bzw. Erfinderurkunden oder PCT internationale Anmeldungen angegeben, deren Anmeldetag dem der Anmeldung, für welche Priorität beansprucht wird, vorangegangen.

Prior Foreign Applications
(Frühere ausländische Anmeldungen)

| | |
|------------------------------------|--------------------------------|
| 29923540 8 (Number) (Nummer) | Germany (Country) (Land) |
| 10041319 6 (Number) (Nummer) | Germany (Country) (Land) |

Ich beanspruche hiermit Prioritätsvorteile unter Title 35, US-Code, § 119(e) aller US-Hilfsanmeldungen wie unten aufgezählt

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| (Application No.) (Aktenzeichen) | (Filing Date) (Anmeldetag) |
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Ich beanspruche hiermit die mir unter Title 35, US-Code, § 120 zustehenden Vorteile aller unten aufgeführten US-Patentanmeldungen bzw. § 365(c) aller PCT internationalen Anmeldungen, welche die Vereinigten Staaten von Amerika benennen, und erkenne, insofern der Gegenstand eines jeden früheren Anspruchs dieser Patentanmeldung nicht in einer US-Patentanmeldung, bzw. PCT internationalen Anmeldung in in einer gemäß dem ersten Absatz von Title 35, US-Code, § 112 vorgeschriebenen Art und Weise offenbart wurde, meine Pflicht zur Offenbarung jeglicher Information an, die zur Prüfung der Patentfähigkeit in Einklang mit Title 37, Code of Federal Regulations, § 1.56 von Belang sind und die im Zeitraum zwischen dem Anmeldetag der früheren Patentanmeldung und dem nationalen oder im Rahmen des Vertrags über die Zusammenarbeit auf dem Gebiet des Patentwesens (PCT) gültigen internationalen Anmeldetags bekannt geworden sind.

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| (Application No.) (Aktenzeichen) | (Filing Date) (Anmeldetag) |
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Ich erkläre hiermit, daß alle in der vorliegenden Erklärung von mir gemachten Angaben nach bestem Wissen und Gewissen der Wahrheit entsprechen, und ferner daß ich diese erdesstattliche Erklärung in Kenntnis dessen ablege, daß wissentlich und vorsätzlich falsche Angaben oder dergleichen gemäß § 1001, Title 18 des US-Code strafbar sind und mit Geldstrafe und/oder Gefängnis bestraft werden können und daß derartige wissentlich und vorsätzlich falsche Angaben die Rechtswirksamkeit der vorliegenden Patentanmeldung oder eines aufgrund deren erteilten Patentes gefährden können.

I hereby claim foreign priority under Title 35, United States Code, § 119(a)-(d) or § 365(b) of any foreign application(s) for patent or inventor's certificate, or § 365(a) of any PCT International application which designated at least one country other than the United States, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or PCT International application having a filing date before that of the application on which priority is claimed

Priority Not Claimed
Priorität nicht beansprucht

7 September 1999
(Day/Month/Year Filed)
(Tag/Monat/Jahr der Anmeldung)

23 August 1999
(Day/Month/Year Filed)
(Tag/Monat/Jahr der Anmeldung)

I hereby claim the benefit under Title 35, United States Code, § 119(e) of any United States provisional application(s) listed below.

I hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s), or § 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application.

(Status) (patented, pending, abandoned)
(Status) (patentiert, schwebend, aufgegeben)

(Status) (patented, pending, abandoned)
(Status) (patentiert, schwebend, aufgegeben)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon

German Language Declaration

VERTRETUNGSVOLMACHT. Als benannter Erfinder beauftrage ich hiermit den (die) nachstehend aufgeführten Patentanwalt (Patentanwälte) und/oder Vertreter mit der Verfolgung der vorliegenden Patentanmeldung sowie mit der Abwicklung aller damit verbundenen Angelegenheiten vor dem US-Patent- und Markenamt (*Name(n) und Registrationsnummer(n) auflisten*)

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